

In re Application of: Amir BARZILAY et al
Serial No.: 10/590,477
Filed: August 24, 2006
Office Action Mailing Date: July 8, 2009

Examiner: Kaitlyn E. Helling
Group Art Unit: 3739
Attorney Docket: 32110
Confirmation No.: 8675

REMARKS

Reconsideration of the above-identified application in view of the amendments above and the remarks following is respectfully requested.

Claims 1-8, 12, 16-19, 25-28, 33, 37-39, 48, 54, 70, 301 and 302 are in this Application. Claims 9-11, 13-15, 20-24, 29-32, 34-36, 40-47, 49-53, 55-69, and 71-300 have been canceled in a previous response. Claims 1-7, 16, 18, 19, 25-28, 37, 39, 48, 54 and 70 have been rejected. Claims 8, 12, 17, 33 and 38 have been objected to. Claims 4-6 have been amended. New Claims 301 and 302 have been added.

35 U.S.C. § 112 Rejections

Claims 4, 5 and 6 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner noted that "said wave condenser" lacks antecedent basis.

Claims 4, 5 and 6 have been amended to include the feature, found in original claim, that the method further comprises using a wave condenser for condensing the acoustic waves, prior to said transmitting of said acoustic waves through the hair.

In light of this amendment, Applicants respectfully request withdrawal of the 112 rejection.

35 U.S.C. § 103 Rejections - Zanelli in view of Tsaliovich

The Examiner rejected claims 1, 3, 7, 16, 18, 25, 37, 39 and 54 under 35 U.S.C. § 103(a) as being unpatentable over Zanelli in view of Tsaliovich. The Examiner identifies in Zanelli all the features of these claims except the feature of transmitting the acoustic waves through the hair via a wave condenser gripping configuration. In this respect, the Examiner cites Tsaliovich and states that Tsaliovich teaches a hair removal method and device which uses radiofrequency in conjunction with the application of ultrasonic waves through tweezers tips which allows for the application of the ultrasonic energy through the hair itself. The Examiner concludes that it would have been obvious to one having ordinary skill in the art at the time of

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the invention to have modified Zanelli to have included the direct application of the ultrasonic waves of Tsaliovich in order to reduce the attenuation of the ultrasonic waves to enhance the propagation of the waves.

Applicants respectfully traverse the rejection and state that the Examiner has not established a *prima facie* case of obviousness regarding claim 1, since Tsaliovich does not provides what Zanelli lacks.

Claims 1 and 25 recite the feature that acoustic waves are transmitted through the hair so as to generate heat at the follicle, dermal papilla, hair bulge and/or germinal matrix of the hair, wherein the heat in itself is sufficient to damage or destroy the follicle, dermal papilla, hair bulge and/or germinal matrix.

Neither Zanelli nor Tsaliovich teach this feature. Zanelli, as properly noted by the examiner, does not transmit the acoustic waves through the hair. Tsaliovich teaches (column 4 lines 14-16) ultrasound waves that mechanically shake up the follicle, already destructed by the radio frequency radiation. Thus, contrary to the claims, Tsaliovich does not transmit the acoustic waves through the hair so as to generate heat and certainly not to generate sufficient amount of heat to damage or destroy the follicle, dermal papilla, hair bulge and/or germinal matrix. It is submitted that Tsaliovich's ultrasound does not inherently generate heat, since mechanical shaking, as taught by Tsaliovich, does not necessarily generate heat, all the more so at sufficient amount for damaging tissue.

Furthermore, the PTO rejection is confusing, at least regarding claim 25 and its dependent claims. On the one hand (page 3 of the action) the PTO interprets Tsaliovich's tweezers tips as a wave condenser, and on the other hand the PTO explicitly states (pages 4-5, paragraph bridging) that Zanelli in view of Tsaliovich does not teach the inclusion of a wave condenser for condensing the acoustic waves. The PTO's position with respect to the wave condenser is therefore not clear.

35 U.S.C. § 103 Rejections - Zanelli in view of Tsaliovich and Masotti

The Examiner rejected claims 2, 4-6, 19, 26-28 and 48 under 35 U.S.C. § 103(a) as being unpatentable over Zanelli in view of Tsaliovich and further in view of Masotti.

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The Examiner acknowledges that Zanelli in view of Tsaliovich do not teach the inclusion of a wave condenser for condensing the acoustic waves prior to transmission of acoustic waves through the hair. In this respect, the Examiner cites Masotti and states that it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified Zanelli in view of Tsaliovich with the wave condenser of Masotti. The Examiner reasons the contention by stating that Masotti teaches that focusing the waves prior to application to the hair which achieves the result of arranging the ultrasonic waves at a suitable selected depth in order to make the diameter of the focused waves as small as possible allowing for a high density of energy to be carried by the waves and to strike only the desired target.

Applicants respectfully disagree with the Examiner's interpretation of the art.

Masotti is similar to Zanelli in that Masotti teaches use of focused ultrasound on the area from which hair is to be removed. Like Zanelli, Masotti does not transmit the waves through the hair. Masotti teaches that the most important parameter is the focusing of the beam, namely to make the beam converge toward an area of space located at a distance from the ultrasonic transducer. Masotti, however, does not even hint at condensing the acoustic waves. It is noted that condensing is not the same as focusing: whereas the focusing results in convergence of the beam away from the transducer, the wave condenser establishes acoustic coupling between the acoustic waves and the hair. Masotti does not contemplate the use of wave condenser, because Masotti's technique does not involve transmitting the acoustic waves through the hair, and there is no need for acoustic coupling between the acoustic waves and the hair.

It is therefore submitted that claims 2, 4-6, 19, 26-28 and 48 are not rendered obvious by Zanelli in view of Tsaliovich and Masotti because these claims are patentable by virtue of their dependencies, and further because none of Zanelli, Tsaliovich and Masotti teaches using a wave condenser for condensing the acoustic waves and transmitting the acoustic waves through the hair so as to generate sufficient heat to damage or destroy the follicle, dermal papilla, hair bulge and/or germinal matrix.

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Claims 3, 12, 16-18, 33, 37-39, 54, 70, 301 and 302 all depend from claims 1 and 25 and are therefore submitted to be allowable with that claims, apart from the further features set forth in the respective claims. It is to be noted, however, that many of these claims set forth even further distinguishing features, as further detailed hereinbelow.

Claims 4-6 and 26-28 include the distinguishing features that the propagation direction of the acoustic waves while entering the wave condenser is generally parallel (claims 4 and 26) or generally perpendicular (claims 5 and 27) or generally inclined (claims 6 and 28) to a longitudinal axis of the hair. None of the cited references discloses or imply these features.

Claims 301 and 302 include the distinguishing feature that the ultrasound waves that are transmitted through the hair are at a frequency of at least 500 kHz. Zanelli and Masotti do not teach this feature since they do not transmit ultrasound waves through the hair. Tsaliovich does not teach this feature since Tsaliovich employs ultrasound waves in the range from 60 kHz to 300 kHz. It is submitted that none of the references discloses the general conditions of the claims, since none of the references discloses the transmission of waves through the hair for the purpose of generating damaging heat. It is additionally submitted that the skilled person would not arrive at the subject matter of claims 301 and 302 through routine experimentation. Since the references do not teach waves that are transmitted through the hair to generate damaging heat, the skilled person would not be motivated to perform experimentation in order to find the frequencies at which the transmitted waves generate the heat. The claimed frequencies are therefore patentable.

Claims 8, 16 and 37 include the feature that the acoustic waves which are transmitted through the hair result in temperature increment of at least 20 degrees centigrade. Zanelli and Masotti do not teach this feature since they do not transmit ultrasound waves through the hair. Tsaliovich does not teach this feature since Tsaliovich only uses ultrasound for shaking the hair after its follicle has been destroyed.

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Claims 12 and 33 include the feature that the frequency, power density and/or duration of transmission is selected so as to minimize vibrations of the hair. None of the cited references discloses or imply these features, as properly noted by the Examiner on page 8 of the action.

Claims 17 and 38 include the feature that the frequency is an off-resonance frequency. None of the cited references discloses or imply these features, as properly noted by the Examiner on page 8 of the action.

Closing Note

Applicants submit that the amendment does not necessitate new grounds for rejection, and that the PTO's 103 rejection was unclear at least regarding the wave condenser. In this respect it appears that it would be inappropriate to make the next office action final.

In view of the above amendments and remarks it is respectfully submitted that the claims are now in condition for allowance. A prompt notice of allowance is respectfully and earnestly solicited.

Respectfully submitted,



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Date: November 9, 2009

Enclosures:

- Petition for Extension (One Month)
- Additional Claims Transmittal Fee